Chapter Nine

Architects of the 'New Obstetrics' ~ Birth as a Surgical Procedure, Circa 1910

Fatal infections in hospitalized maternity patients have been a repeating pattern since the first epidemic of childbed fever was recorded in Paris at the Hotel Dieu in 1646. Eventually physicians realized that the endemic nature of puerperal septicemia was a side effect of aggregating childbearing women in an institutional setting. However, it was believed to be the lesser of evils, since medical education and medical care were both seen as equally necessary. In 1910, childbed fever, which DeLee and Williams referred to by its technical Latin name of puerperal sepsis, was still the leading cause of maternal mortality. Tens of thousands of newly delivered mothers died every year. Up through the mid-1930s, it was generally acknowledged that maternal mortality rate from sepsis was two or more times higher for physicians and three or more times higher for hospital births than for midwife-attended births at home. Infection did not cease to be the most frequent fatal complications of childbirth until after sulfa became available in the fall of 1937 and penicillin by the end of WWII. The iatrogenic and nosocomial aspect of infection was high on list of concerns for the obstetrical profession. Here is one of Dr. DeLee's comments on the problem:

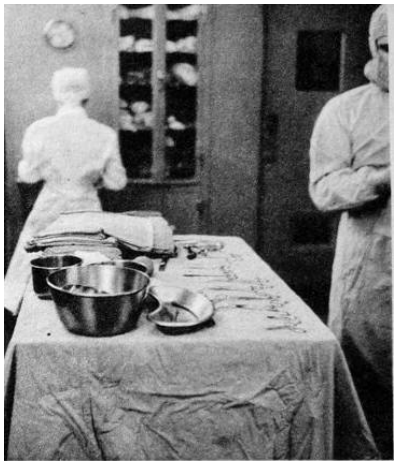
> "Without doubt the physician carries the greatest danger of infection to the confinement [i.e., labor] room. The germs in the air, in the bedclothes, in the patient's garments, even those of the vulva, may be the same in main as those he brings with him, but the former are **not** virulent...
>
> The physician comes in daily contact with infections disease, pus, and erysipelas cases, and his person, clothes and especially his hands may carry highly virulent organisms."
>
> [DeLee, Principles and Practice of Obstetrics; p. 291; emphasis added]

The transitional decades between the discovery of the germs theory and the development of antibacterial drugs presented many difficulties to physicians and patients alike. Rising expectations of science and medical care ran decades ahead of its actual ability. While the source of infections was understood for the first time in history, the successful elimination all pathogens remained frustratingly elusive. Faced with these facts, its not surprising that DeLee and Williams felt compelled to take the boldest possible action to reduce the large number of maternal and infant deaths occurring in their patients. Desperate times call for desperate measures. For DeLee and Williams that was the *pre-emptive use* of the *most aggressive means available*. This dramatically increased what was done to each maternity patient and extended the reach of obstetrics to include all childbearing women. Obstetrical interventions developed to treat serious complications were applied to an ever-larger number of childbearing women, a policy that seemed logical under the circumstance. Between 1910 and 1920, healthy mothers with low risk pregnancies were pulled into the widely cast net of obstetrical patients.

Preventing childbirth sepsis was the top priority for Doctors Delee and Williams. The aspect of childbearing that was most under their control and for which they had most obvious responsibility was the actual birth of the baby. To them the answer seemed obvious -- birth should be performed by the physician as a sterile procedure, no different than any operation. Birth-as-a-surgical-procedure was a logical attempt to prevent birth-related infections in a pre-antibiotic era.

Drs DeLee and Dr. Williams theorized that maternal deaths from childbirth septicemia could be reduced or eliminated by applying the same techniques to normal childbirth that were already being used successfully by surgeons to prevent wound infection following surgical operations. Had Sir Joseph Lister not proved that the best method to prevent postoperative sepsis was to perform surgery under 'aseptic' conditions – the specialized environment of an operating room, sterile instruments, a surgeon scrubbed and gowned and masked, the patient scrubbed and covered by sterile drapes?

Did not the childbearing woman suffer a 'wound' -- the raw surface where the placenta detached itself from the uterine wall? In light of that fact, was not an obstetrical patient also a surgical patient? As a surgical patient, shouldn't normal childbirth be conducted under this same surgical system as a sterile procedure? In this new obstetrical model of Doctors DeLee and Williams, modern childbirth was formally redefined as a surgical procedure. By this they meant the 2nd stage of labor -- the entire period (hours) that the mother pushed and the baby was born -- was to be conducted with the same high level of absolute sterility as any surgical operation. Dr. DeLee identified the crucial elements of antiseptic and aseptic technique and described the ultimate level of sterility as equal to that used for major surgery:



> " . . . refers first to the physician; second the patient; and third, the environment, and the same minute attention to detail is required as for an *abdominal section*."

Delee and Williams and all the obstetricians who followed them believed that birth as a surgical procedure would end epidemics of childbirth septicemia in hospitalized maternity patients and preserve the hospital's role in society as a place of added safety. This was necessary in order to assure a steady supply of teaching cases for their med students. For academicians such as Dr. Williams, medical education was a top priority, as without properly trained obstetricians, none of the gains of the new science would reach the women who needed them. He bemoaned the perennial problem that medical schools faced in securing an adequate numbers of "clinical material", remarking that:

> " .... the situation is deplorable, as the vast majority of our schools are not prepared to give the *proper clinical instruction* to anything like the present number of students. ....
>
> The paucity of material [i.e. teaching cases] renders it probable that years may elapse before certain complications of pregnancy and labor will be observed ... to the great detriment of the student.
>
> Moreover, such restriction in [clinical teaching] material greatly hampers the development of the professor and his assistants by the absence of suggestive problems and his inability to subject his own ideas to the test of experience." [Dr. J. Whitridege Williams, 1911-B, p.171; emphasis added]

But the policy of conducting birth as a sterile surgical procedure was also a strategy to protect obstetricians from blame should a patient, in spite of their best efforts, become infected. If a newly delivered mother became septic under the new 'Listerized' system, the physician could more easily defend himself. Pointing out to the impeccable sterility of his technique would validate the obvious – whatever happened must have been the result of an external condition, since the physician used sterile technique and sterile instruments in a sterile environment. In the background was the unspoken 'alternative' explanation that the mother's own, shall we say, less than perfect standards of personal hygiene or suspect sexual practices of her husband or a constitutionally weak immune system was reason the mother became infected. Whatever it was, the doctor certainly couldn't be to blame.

As a sterile surgical procedure performed by a physician-surgeon, normal birth was to be called 'the delivery'. As with any kind of surgery, this sterile obstetrical technique required a restricted access operating room, the same special preparations for the doctor and nurses -- scrub suits, sterile doctors gown, caps and masks -- and the highest level of cooperation from the surgical patient.

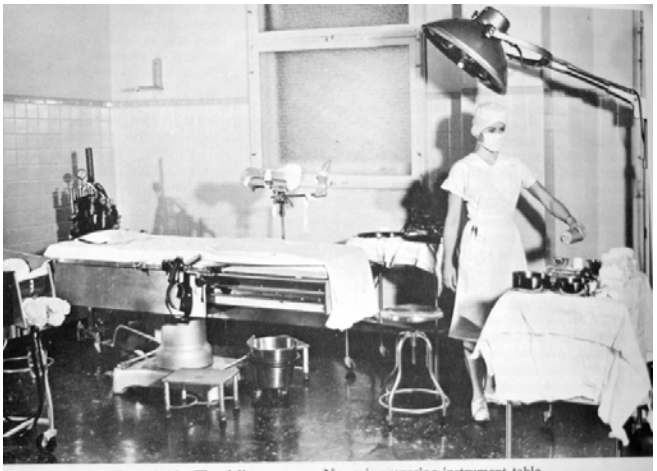


FIG. 13-10. The delivery room. Nurse is preparing instrument table.

Whether that was a pregnant woman or someone having an appendectomy, surgical patients had to lie still and not touch anything, lest the 'sterile field' become contaminated and the whole purpose of surgical sterility be compromised. Before the antibacterial drugs, about 40% of surgical patients died within a few days of a 'successful operation" from a post-operative infection.

In Dr. Delee's textbook "The Principles and Practice of Obstetrics" (1913-1924), he laments the iatrogenic association being imposed on doctors by a public that (in his opinion) doesn't appreciate the difficulties that obstetricians faced. As a result, they were getting a 'bum rap':

> "Semmelweis, in 1847, called the attention of the world to *the physician as a carrier of infection*, and the latter's importance in this role has been recognized ever since – in fact it is exaggerated, for the public has held him responsible in cases of sepsis when he was not to blame.
>
> Cases of infection will occur under ideal conditions, and we must look for the cause elsewhere than in the accoucheur – probably in the woman herself, or even in the husband." [*italic emphasis in original text*]

Dr. Delee's description [p. 338] of this problem is particularly colorful and is actually a sophisticated argument by him for ratcheting up the circumstances associated with the sterile

environment, especially methods that afforded the physician more and better *control of the delivering patient.* His example describes the entire 2nd or pushing stage of labor in the delivery room conducted as a surgical 'procedure'. His comments incidentally mirror the improved policies that Lister made in the conduct of surgery in the 1870s, progressing from *anti*septic to *a*septic:

> "*Antiseptic* surgery has very properly given way to *aseptic* surgery. An example will illustrate the need for this:
>
> A parturient is ideally prepared for delivery, with sterile night-gown, sterile leggings, sterile sheets and towels, all safely pinned together , with a sterile towel under the buttocks, leaving only the vulvae orifice exposed; the accoucheur is dressed as for a major laporotomy.
>
> What happens? The woman, in her throes of pain, tosses about, disarranging all the sterile covers; she grasps the hand of the attendant, or puts her hand over the sterile towels to the vulva; she coughs or expires forcibly and the droplets of saliva are blown on to the sterile cloths; the second stage **drags on for one, two, or three hours**, dust settles on the extensive area of sheets, leggings, towels, gloves, gowns, basins, etc., which are supposed to be sterile.
>
> How many of these things are really sterile when the actual time of delivery arrives and may safely be touched?" [emphasis added]

To guarantee absolute sterility and insure a faultless aseptic technique during childbirth was more difficult than the surgical patients. The fully conscious labor patient had to made to stay absolutely still and not touch anything (especially not the obstetrician's gloves by grabbing his hand!), lest she contaminate the 'sterile field'. One method was to secure the mother's hands to the side of the delivery table with leather wrist restraints and put her legs in stirrups. While leather straps and stirrups improved the obstetrician's control of patients in the delivery room, it was still terribly difficult to meet the physical and emotional needs of a fully-conscious and physically able woman in 2nd stage labor, while the physician was focused on performing a sterile procedure. This conflict of needs would soon be decided in favor of surgical sterility by the obstetrical profession.

Figure #1: "**mothers must have their hands strapped down so they won't touch sterile sheets**"

Women in the throws of the 2nd (or pushing) stage of labor find it very difficult to lay still and almost impossible to lie on their back. Physicians soon came to believe that general anesthesia was the only way to have the required control of obstetrical patients. To assure the sterility of the process, general anesthesia provided total control of the patient, the sterile environment and the surgical field. This seemed to be the perfect choice, since it rendered the mother inert and insensible to the pain at the same time. It also permitted obstetricians to control (within reason limits) when the delivery occurred and reduce the length of time it required to deliver a patient

from the "one, two or three hours" originally described by Dr DeLee to about 45 minutes: Dr. DeLee was quite opinionated [p. 341, emphasis added]

"Let us pause here to take a glance back at the treatment of labor as a whole. It should be regarded as surgical operation: it really is such, and the obstetrician is really a surgeon."

Unfortunately it also introduced the independent risks of anesthesia. Once a pregnant woman was under the influence of anesthetic agents, it was necessary to get the birth over with quickly, before either mother or baby were compromised by the potentially-lethal effects of the chloroform or ether. Because the laboring woman was unconscious and laying flat on her back, her ability to push was obliterated. To reduce the mother's exposure to dangerous anesthetics, an episiotomy was performed and then forceps and fundal pressure used to get the baby out. Then the placenta was manually removed and the episiotomy was quickly sutured. Birth conducted as a surgical procedure under the time constraints imposed by chloroform anesthesia certainly did require the expert skills of an obstetrically trained surgeon.

As a surgical event, only a physician-surgeon was legally authorized to perform the 'delivery'. This created an artificial separation between the duties of labor room nurses and those of the physician surgeon-obstetrician, who no longer stayed with the mother while she labored. Instead the nursing staff provided care during the long tedious hours of labor and only called the obstetrician if there was a problem or if it was time to perform the surgical procedure of normal birth.

The Day the World of Normal Childbirth Stood Still

In 1911 the core of our current obstetrical system was set in stone at a large medical meeting (the Association for the Study and Prevention of Infant Mortality), which officially was convened to study the problem of infant mortality but in fact (according to the transcript) devoted the bulk of its time defining the modern practice of obstetrics as a surgical specialty, an endeavor that included plans to eliminate the practice of midwives. This meeting occurred annually for five years in a row – 1910 through 1915. On these occasions, the two Titians of American obstetrics took turned pounding nails into the coffin of physiological management, all in the name of preventing infant mortality. While the rhetoric was often vitriolic, especially in regard to midwives, you must assume that this was motivated by the mistaken belief that failure to use medical and surgical means was dangerous for both mothers and babies. Dr. J. Whitridge Williams', professor extraordinaire in the field of academic obstetrics and famed author of Williams Obstetrics, announced that was now birth a surgical procedure:

> "For the sake of lay members who may not be familiar with **modern obstetric** procedures, it may be informing to say that care furnished during **childbirth** is now considered, **in intelligent communities**, a **surgical procedure**." [1911; emphasis added]

Dr. DeLee, the famous obstetrician-founder of the Chicago Lying-In Hospital and author of his own obstetrical textbook, told obstetricians to:

> " … take a glance back at the treatment of labor as a whole. It should be regarded as surgical operation: it really is such, and the obstetrician is really a surgeon."

Textbooks and journal articles described the 'new obstetrics', which redefined normal birth and the fundamental practice of obstetrics and identified the role of the obstetrical profession to be: "the final authority to set the standard and lead the way to safety":

> "If obstetrics is ever to attain the dignity of surgery, -- and it should, -- if the parturient woman is ever to enjoy the same benefits as the surgical patient, -- and she deserves them – .... the make-shift policies of obstetric practice must be abolished. [DeLee; p. 290]

> "The conduct of labor is *not* a simple matter, safely entrusted to everyone. Let the people know that having a child is an important affair, deserving of the deepest solicitation on the part of the friends, needs the watchful attention of a qualified practitioner and that the care of **even a normal confinement is worthy the dignity of the greatest surgeon**." [DeLee; p. 341, emphasis added]

> "We believe it to be the duty and privilege of the obstetricians of our country to safeguard the mother and child in the dangers of childbirth. The obstetricians are the final authority to set the standard and lead the way to safety. They alone can properly educate the medical profession, the legislators and the public." [February, 23, 1911; Boston Journal of Medicine, p. 261]

> "The parturient [laboring woman] suffers under the *old prejudice* that labor is a physiological act,' ... and the medical profession entertains the *same prejudice*, while as a matter of fact, obstetrics has great pathologic dignity -- it is a major science, of the same rank as surgery". [Dr. DeLee, 1915-C; p. 116]

Medical Education and the 'New Obstetrics' as a surgical specialty

If birth "in intelligent communities, [is] a surgical procedure", then the proper education of large numbers of physician-surgeons was the very ground of being for this newly configured obstetrical profession, which had self-appointed itself to attend every birth in the United States (approximately 2 million annually in 1920s, compared to under 3.9 million today). In achieve that ambitious educational goal, a steady supply of healthy childbearing women was required as the primarily source of teaching cases for the clinical training of medical students. Nearly all the early hospitals on the East Coast were associated with medical schools and the use of charity patients as clinical material was the standard educational method going back to the Hotel Dieu in the 1600s.

However, the nature of the care provided to this healthy population was decidedly not physiological. Professors of obstetrics felt no need to 'teach' what was biologically normal, as that was not considered to be a practice of medicine. The clinical training of med student reflected the obstetrical philosophy of DeLee and Williams – that childbirth was a 'patho-physiology' ("Mother Nature is a bad obstetrician"). The curriculum for obstetrics was of course developed and defined by obstetrical professors and its teaching was carried out by many of the same obstetrical professionals. Medical education and the promotion of the obstetrical profession fed back and forth on one another.

The other major influence on obstetrical education was the steady drumbeat of puerperal sepsis ever present in the hospital environment and eventually giving rise to the Listerizating of 'delivery'. From an educational standpoint, medical students needed ample opportunities to develop these surgical skills of obstetrics— episiotomies, forceps, manual removals of the placenta and suturing episiotomy incisions. This was an important part of preparing interns to manage the various obstetrical complications they might encounter later on as practicing physicians. Students and graduate physicians both needed to maintain their proficiency in the surgical skills of forceps use by regularly performing instrumental deliveries.

Unfortunately, the lynch pin of the new obstetrics – providing surgical skills for operative deliveries – depended on both quality and quantity of obstetrical education, both of which were sorely lacking according to DeLee and Williams. Both doctors were extremely unhappy with the poor quality of obstetrical education in the late 19th and early 20th century. One of the many problems was an inadequate supply of teaching cases, a situation usually blamed on midwives. They believed that every normal birth attended by a midwife was a horrible 'waste' of clinical material that deprived a medical student of a valuable learning experience. No where in the historical record of this period is the depth and breadth of obstetrical angst over professional status more obvious than in its relationship with obstetrical training. Raising the status of obstetrics -- long been the ugly step-sister of medicine -- was deeply intertwined the issue of obstetrical education.

> "In general,...the medical schools in this country and the facilities for teaching obstetrics are far less than those afforded in medicine and surgery; while the teachers as a rule are not comparable to those in the German Universities....Yet young graduates who have seen only 5 or 6 normal deliveries, and often less, do not hesitate to practice obstetrics, and when the occasion arises to attempt the most serious operations." 1911-B; Dr. Williams, M.D. p. 178

> "The story of medical education in this country is not the story of complete success. We have made ourselves the jest of scientists through out the world by our lack of a uniform standard. Until we have solved the problem of how NOT to produce incompetent physicians, let us not complicate the problem by attempting to properly train a new class of practitioners. The opportunities for clinical [i.e. 'bedside'] instruction in our large cities are all too few to properly train our nurses and our doctors; how can we for an instant consider the training of the midwife as well?" [1911-C, p. 207]

> "In 1911, the great American obstetrician, J. Whitridge Williams, [of *Williams Obstetrics*], completed a survey of obstetrical education in United States medical schools. Williams found that more than one-third of the professors of obstetrics were general practitioners. 'Several accepted the professorship merely because it was offered to them but had no special training or liking for it.' 13 had seen less than 500 cases of labor, 5 had seen less then 100 cases and *one professor had never seen a woman deliver before assuming his professorship.* Several professors of obstetrics were not able to perform a Cesarean section. [Dr. DeVitt, MD, 1975; emphasis added]

Before a medical student was licensed to practice, Dr. Williams reported that:

> "The actual figures show that in 25 schools, each student sees 3 (deliveries) or less, in 9 schools, 4-5 cases and in 8 others, 5 or more cases, while in some of the smaller hospitals this is possible only by having 4-6 [medical students] examine each patient..."

Dr. Williams was highly critical of this situation:

> "The generally accepted motto for the guidance of the physician is '*primum non nocere'* [in the first place, do no harm], and yet more than 3/4 of the professors of obstetrics in all parts of the country, in reply to my questionnaire, stated that incompetent doctors kill more women each year by improperly performed operations than the ... midwife...." [1911-B; Dr. Williams, M.D.; p.180]
> "So much is needed before we can hope to give to the students graduating from our medical schools adequate training in obstetrics and before we can hope to compete with the German medical schools." [1912-B, p.224]
>
> "If the profession would realize that parturition, viewed with modern eyes, is no longer a normal function, but that it has imposing pathologic dignity, the midwife would be impossible of mention." [1915-c; Dr. DeLee, M.D., p.117]
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> "The midwife has been a drag on the progress of the science and art of obstetrics. Her existence stunts the one and degrades the other. For many centuries she perverted obstetrics from obtaining any standing at all among the science of medicine." [Dr. DeLee, 1915,-c, p. 114]
>
> "It is, therefore, worthwhile to sacrifice everything, including human life to accomplish the **[obstetric] ideal**." [Dr. DeLee, 1915]

To achieve Dr. DeLee's vaulted "obstetric ideal", obstetrical training and practice created a feedback loop that eventually produced a seamless process for medicalizing normal labor and conducting normal childbirth as a surgical procedure performed on anesthetized women. In addition to the benefits ascribed to the mother and baby from the medicalization of normal birth, Dr DeLee wrote described the advantage to the physician in his1924 textbook (p. 289 & p. 341):

> "Another benefit which is not so generally recognized is the effect on the physician. The maternity [hospital] relieves him of a great deal of actual labor, it saves him many hours of tedious waiting, it lightens the burden of responsibility….
>
> The drudgery inherent in obstetric practice is thus largely eliminated, and the field becomes more inviting to the best men of the profession. … the care of even a normal confinement is worthy of the dignity of the greatest surgeon."

As described by DeLee and Williams and various other obstetricians, these measures were also part of the plan to promote a flattering "scientific" image that would establish obstetrics as an important specialty branch of surgery. It was hoped that this elevated the status would improve their working conditions, increase the compensation of individual physicians and reducing their work load.

Unintended Consequences

No matter how compassionate or skilled the surgeon was, the problem for healthy mothers and babies in 1910 was that obstetricians took over the practice of normal childbirth without any direct knowledge of the philosophy, principles or techniques of physiological management. They didn't think such a body of knowledge was necessary, since the plan (and hope) was to eliminate all predictable complications by medicalizing labor and Listerizing the delivery.

Unfortunately, that didn't happen. Instead, the change from physiological management to universal obstetrical intervention dramatically *increased* maternal deaths and neonatal birth injuries. Among themselves, doctors also admitted that it wasn't just the aggregating of women in hospital environments that increased rates of childbirth septicemia but also the use of invasive procedures and excessive blood loss associated with obstetrical intervention such as vaginal exams, rubber bogies inserted in the cervix and gradually filled with water to force open the cervix, etc. These factors dealt a sever blow to the mother's immune system. The more manipulations done during labor, the more infections and the greater the rate of morbidity and mortality.

Dr. DeLee [p. 292-293] described the problem this way:

> "Let the [mother's] natural immunities be broken down, as by severe hemorrhage, shock, eclampsia, etc or let a new virulent bacterium be introduced; let the accoucheur in his manipulation carry too many of the vaginal bacteria up into the uterus (a procedure not entirely avoidable), or let him, by his operations, bruise and mutilate the parts too much, or let him break up the protective granulation referred to, and the germs will rapidly invade the system, producing a disease know as puerperal infection, termed by the older writers as child-bed fever. The asepsis of the patient therefore consists mainly in the preservation of her immunities by sustaining her strength, procuring a normal course of labor, avoiding the necessity for operative interferences, and conducting these with the least possible amount of damage." [parenthetical notations in original text]

The Tail Wags the Dog ~ a *sterile* process morphs into a *surgical* operation

With no corrective feedback or oversight from the wider scientific community and no effective pushback from the public (which would have been impossible, since the mother was unconscious and the father not permitted to be in the delivery room) the obstetrical idea of 'surgical' sterility gradually morphed in the notion that normal birth *actually was surgery* – the same as a hysterectomy or tonsillectomy. Instead of using sterile technique and a sterile environment simply as *tactic to reduce sepsis*, a strategy that could be changed as circumstances

evolved (for example, the development of antibacterial drugs), birth itself was reconfigured to fit the surgical definition given to it by the obstetrical profession. This can be directly traced to the need to keep the mother perfectly still in order to protect the integrity of sterile field. This search for perfect sterility had inevitably expanded to include anesthesia, which then introduced the need for episiotomy, forceps, manual removal of the placenta and suturing of the perineal incision.

At this point, the idea of birth as an operation was a perfect match for what was already happening. No longer was the point just sterility, but the skill of performing the complex technical procedure of an operative delivery. With birth conducted as an actual surgical operation, it would, of course, require an obstetrically-trained surgeon. This contributed greatly to the notion that midwives, GPs and family practice physicians were not properly trained to provide safe maternity care, since they weren't trained as obstetrical surgeons (an opinion that still applies).

The point of all this detail is to make it easier to see why the tail wags the dog in regard to the surgically sterile procedure of birth. Technical requirements for sterility, which are all perfectly appropriate for performing surgery, are absolute -- there is no such thing as 'sort of' sterile. By its very nature, the requirements for surgical sterility must dominate the entire process. This means the biological, psychological and social needs of childbearing parents, the extreme economic cost and all other considerations, must all be subsumed under the rules of surgical sterility and surgical technique.

The improvements in maternity care so fervently hoped for by the obstetrical profession in the first decades of the 20th century failed to materialize. Worse yet, and morbidity and mortality increased substantially as more and more healthy women with normal pregnancies became obstetrical patients. The big switch from midwife-attended physiologic births to physician-attended medicalized labors and birth was from 1910 to 1920, when midwife care plummeted from approximate 50% to 13% in the states east of the Mississippi. Most of those left were black midwives in the South, where white doctors and segregated hospitals refused to provide care to 'colored' patients.

Maternal mortality skyrocketed by a third in the five years from 1913 to 1918, going from 16,000 to 23,000. Studies evaluating the maternal-infant mortality rate associated with the new obstetrics (a model devoid of physiologic care) revealed an annual ***increase*** in maternal deaths by **15%** for more than a decade and **44% increase** in neonatal birth injuries over the same period (1910-1920). The Committee on Maternal Welfare (Philadelphia County Medical Society) noted in 1934 that the rate of **deaths of infants from birth injuries had increased 62%** in a mere nine years – from 1920 to 1929.

One major reason for the big jump in mortality was the maternal complications of general anesthesia, such as aspiration pneumonia. This is associated with the loss of the normal gag reflex that occurs when anyone is under the influence of general anesthesia. This potentially fatal complication was much more frequent for obstetrical patients due to the frequent use fundal pressure during the delivery, in which external pressure is applied to the top of uterus to help push the baby down while the obstetrician pulled from below with forceps.

To make up for the unconscious and anesthetized mother's inability to push effectively, the obstetrician instructed the delivery room nurse to stand on a footstool at the side of the delivery

table, next to the mother's mid-section. For purposes of visualizing the technique of fundal pressure, we will assume the mother's head is to the nurse's left and the mother's lower body to the nurse's right. In that case, the nurse would press her right forearm against the top edge of the uterus while she grasped the handle on the far side of the delivery table with the same hand. This meant the nurse's *body weight was now anchored over the mother's abdomen.* Then the nurse would use the knuckle-side of her other (left) hand, balled up into a fist, to push with all her might against the inside of her right forearm, in a 'T-bone configuration'. Combined with her own body weight, this wedged her right arm (the horizontal one) down against the upper end (or fundus) of the mother's contracted uterus and created a piston -like action that pushed on the baby thru the upper uterine wall. This powerful downward thrust by the nurse was timed to match the doctor's pull from below with forceps.

Unfortunately, fundal pressure, which is actually exerted directly over the mother's stomach, also can cause unconscious patients to vomit and breathe stomach acids and undigested food into their lungs, which produces a vicious and potentially fatal chemical pneumonia. Fundal pressure is also associated with trauma to the fetal brain and increased rates of shoulder dystocia (when the baby's head is born, but the shoulders get stuck on upper side of mother's public bone, often the result of a malpositioned fetus that isn't able to rotate normally).

All in all, the stress of general anesthesia, added blood loss associated with episiotomy, operative delivery and manual removal of the placenta all weakened the mother's immune system. Invasive procedures, such as episiotomy, forceps and inserting the surgeon's gloved hand up into the uterus to manually remove the placenta, provided unnatural and unnecessary opportunities to introduce infection. All of this made the newly delivered woman more vulnerable to lethal infection. In all too many cases, the lack of effective antibiotics sealed her fate -- 23,000 maternal deaths in 1918 -- the majority of them caused by a fatal streptococcal septicemia.

> "As to maternal mortality, ...during 1913 about 16,000 women died; in 1918, about 23,000...and with the 15% increase estimated by [Dr.] Bolt, the number during 1921 will exceed 26,000." [Dr. Ziegler, M.D.1922-A]

Click here for Internet link:

Malpractice case reported in AWHONN Lifelines June/July 2003, p.231:

Pressure, Speed and Impacted Shoulders – "A women was completely dilated at 2:10pm. On examination the fetal head was noted to be at +2 station. An office full of patients was waiting; the physician did not fell there was time to wait for spontaneous fetal decent. He asked the nurse for fundal pressure while he applied forceps. She reluctantly agreed and the fetal head was brought down to +4 station with forceps and fundal pressure. The head was delivered at 2:35 pm, but shoulder dystocia occurred. Eight minutes later the fetal body was delivered. The baby was non-responsive at birth with Apgar scores of 0-1-3. The baby suffered neurological damage and developed cerebral palsy. During the litigation process, it was discovered that fundal pressure was routinely used at this hospital to shorten the second stage of labor for convenience. The liability claim was settled prior to trial for $5.6 million, with the institution and physician each paying half"

Commentary:

If nursing were an independent profession, nurses would be authorized to control their own actions. This L&D nurse's "reluctance" would have become a simple "No", completely preventing this tragedy. If the physiological management of labor were taught in medical school and therefore was the universal standard of care fpr healthy women, it would have been malpractice for this obstetrician to intervene with a forceps delivery under these circumstances. If the mother had not had anesthesia, it is unlikely that she would have consented to this plan. The use of fundal pressure and forceps are both so painful that it would have been difficult if not impossible for the obstetrician to carry out his irrational agenda.

Last but not least, if the nurse was trained in midwifery and employed as a nurse-midwife, the physician could have stayed in his own office, taking care of his waiting room full of patients. Meanwhile, the nurse-midwife would have waited patiently for the labor to progress normally and would have attended the spontaneous birth of a healthy baby. No doubt its mother would not have to face the likelihood of pelvic floor damage and/or incontinence from such a violent delivery – all done in an effort to make 'efficient' use of the physician's time.